

What is claimed is:

1. A fish diversion system, comprising:

a river including a dam, a river section below the dam, and a reservoir above the dam, said river section having a river bank and said reservoir having a reservoir bank; and

a fish diversion channel extending upstream from the river section below the dam,
5 past the dam to the reservoir, and then extending further upstream alongside of the reservoir, said fish diversion channel having inner and outer side walls and a bottom, said inner side wall extending upwardly from the bottom and having a top that is above the water level in the reservoir, said bottom substantially following the grade of the ground, said inner and outer side walls and said bottom forming a water passageway that
10 substantially follows the natural grade of the reservoir bottom adjacent the reservoir bank, and said water passageway communicating with the river section below the dam and extending upstream alongside the reservoir above the dam.

2. The fish diversion system of claim 1, further comprising a second

dam in the river above the reservoir for the first dam, and a second reservoir above the second dam, wherein the fish diversion channel extends upstream from alongside the reservoir for the first dam then past the second dam and then upstream alongside the
5 reservoir for the second dam, wherein the inner wall of the fish diversion channel has a top that is above the water surface of the second reservoir, and wherein the bottom of the water passageway substantially follows the grade of the ground as if extends upstream from the second dam alongside of the second reservoir.

3. A Fish diversion system, comprising:

a river including a plurality of dams in series, including a lower dam and an upper dam, said river including a river section below the lower dam and a river section above the upper dam;

a reservoir above each of said dams, each upstream of its dam;
each river section having a river bank and each reservoir having a reservoir bank;
a fish diversion channel extending from the river section below the lower dam, past
5 each dam, and alongside of each reservoir, to the river section above the upper dam, said

fish diversion channel having inner and outer side walls and a bottom, said inner side wall
10 extending upwardly from the bottom and having a top that is above the water surface of
each reservoir, said bottom of the channel substantially following the grade of the ground,
said inner and outer side walls and said bottom forming a water passageway that
substantially follows the natural grade of the river, and said water passageway
communicating with the river section below the lower dam and with the river section
15 above the upper dam.

4. The fish diversion system of claim 3, comprising at least three dams and
three reservoirs.

5. The fish diversion system of claim 3, comprising at least four dams and
four reservoirs.

6. The fish diversion system of claim 3, comprising a variable area section
in the fish diversion channel at the upper end of the reservoir for the upper dam, for
controlling the flow of water downstream into the fish diversion channel.

7. The fish diversion system of claim 6, wherein the variable area section of
the fish diversion channel includes at least one extendable retractable gate for changing
the cross sectional area of the channel at its location.

8. The fish diversion system of claim 7, comprising two extendable/retractable
gates, one extending vertically and the other extending horizontally.